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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/098,572 | 03/18/2002 | Takahiro Kawaguchi | 220881US2 | 3210 |

7590 06/19/2003
OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT
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FOURTH FLOOR
ARLINGTON, VA 22202

EXAMINER

COLILLA, DANIEL JAMES

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2854

DATE MAILED: 06/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/098,572 | KAWAGUCHI, TAKAHIRO | |
| | Examiner | Art Unit | |
| | Dan Colilla | 2854 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2002 and 05 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 16-18 is/are rejected.
- 7) ☒ Claim(s) 10-15, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f):
a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> . | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Claim Objections

1. Claims 1-20 are objected to because of the following informalities:

In claims 1, 2 and 3, the phrase "when rocks to the standby position" is awkward. It appears that "rocks" should actually be --rocking--.

Appropriate correction is required.

2. Claims 4-6 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claims 4-6 are drawn towards an apparatus, but no further structure has been recited in these claims. Instead, applicant has recited a method of manufacturing the apparatus. Method steps hold no patentable relevance in an apparatus claim. See MPEP § 2114.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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4. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi in view of Yoshida et al.

With respect to claim 1, Takeuchi discloses the claimed wire dot printer head except for the surface hardened titanium. Takeuchi discloses a wire dot printer head including an armature 26 which rocks between a printing and a standby position, a printing wire 28 at one end of the armature and an armature stopper 21 as shown in Figure 3 of Takeuchi. The armature stopper includes an elastic plate 21c and a hard plate 21b. While Takeuchi discloses that the hard plate 21b is made of stainless steel (paragraph 21 of the machine translation), it would have been obvious to one of ordinary skill in the art to use any materials that are known for manufacturing a stopper. Yoshida et al. teaches a print head with a stopper 2 made of titanium alloy (see English abstract). It would have been obvious to combine the teaching of Yoshida et al. for the desirable properties of titanium including strength and light weight.

With respect to claim 4, since no further structure has been recited in this claim, it is rejected along with its parent claim.

5. Claims 2-3, 5-6 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi.

With respect to claims 2 and 3, Takeuchi discloses the claimed wire dot printer head except for the hardened SUS 631. Takeuchi discloses a wire dot printer head including an armature 26 which rocks between a printing and a standby position, a printing wire 28 at one end of the armature and an armature stopper 21 as shown in Figure 3 of Takeuchi. The armature stopper includes an elastic plate 21c and a hard plate 21b. Takeuchi discloses that the

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hard plate 21b is made of stainless steel (paragraph 21 of the machine translation), but it is not known to the examiner if this is precipitation hardened SUS 631 or if it is maraging steel.

However, the optimal selection of materials could have readily been determined by one of ordinary skill in the art through routine experimentation without any apparent unobviousness.

With respect to claims 5-6, since no further structure has been recited in this claim, it is rejected along with its parent claim.

With respect to claims 16-17, Takeuchi discloses that elastic plate 21c can be a fluorine rubber (see paragraph 21 of machine translation).

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi in view of Yoshida et al., as applied to claims 1 and 4 above, and further in view of Sanders, Jr. et al.

Takeuchi in view of Yoshida et al. discloses the claimed printer head except that it is not known to the examiner how the plates are attached. However, Sanders, Jr. et al. teaches that it is known to adhere an elastic plate to a hard plate in a printer head stopper (Sanders, Jr. et al., col. 9, lines 32-47). It would have been obvious to combine the teaching of Sanders, Jr. et al. with the printer head disclosed by Takeuchi in view of Yoshida et al. because adhesive is an inexpensive attaching means that does not disrupt the surface of the elements being attached.

7. Claims 8-9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi, as applied to claims 2-3, 5-6 and 16-17 above, and further in view of Sanders, Jr. et al.

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With respect to claims 8-9, Takeuchi discloses the claimed printer head except that it is not known to the examiner how the plates are attached. However, Sanders, Jr. et al. teaches that it is known to adhere an elastic plate to a hard plate in a printer head stopper (Sanders, Jr. et al., col. 9, lines 32-47). It would have been obvious to combine the teaching of Sanders, Jr. et al. with the printer head disclosed by Takeuchi because adhesive is an inexpensive attaching means that does not disrupt the surface of the elements being attached.

With respect to claim 18., Takeuchi discloses that elastic plate 21c can be a fluorine rubber (see paragraph 21 of machine translation).

Allowable Subject Matter

8. Claims 10-15 and 19-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Claims 10-15 and 19-20 have been indicated as containing allowable subject matter because the prior art of record does not disclose or teach the entire combination of a wire dot print head including an armature stopper with an elastic plate and a hard plate integrated with each other in which a part of the elastic plate is caught in a cutout formed in the hard plate.

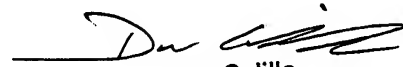
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Colilla whose telephone number is (703) 308-2259. The examiner can normally be reached M-F 8:30-5:30. Faxes regarding this application can be sent to (703) 746-4405.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached at (703)305-6619. Any inquiry of a general

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nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

June 11, 2003



Dan Colilla
Primary Examiner
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